STATEMENT OF THE CLAIMS

1. (currently amended) A thin film electrical heating element including an electrically conductive layer ~~of an electrically conducting metal oxide~~ on an electrically insulating substrate, said electrically conductive layer substantially comprising a metal oxide ~~layer being~~ doped with at least one rare earth element.

2. (currently amended) A thin film electrical heating element according to claim 1 wherein said metal oxide is doped with ~~layer includes~~ at least two rare earth elements.

3. (currently amended) A thin film electrical heating element according to claim 2 wherein said two rare earth elements are present in said metal oxide layer in substantially equal concentrations.

4. (currently amended) A thin film electrical heating element according to claim 2 or 3 wherein said at least two rare earth elements include both cerium and lanthanum.

5. (currently amended) A thin film electrical heating element according to claim 1 wherein said metal oxide is tin oxide.

6. (currently amended) A thin film electrical heating element according to claim 2 wherein said electrically conductive ~~metal oxide~~ layer further includes substantially equal quantities of donor and acceptor elements.

7. (currently amended) A thin film electrical heating element according to claim 6 wherein said donor and acceptor elements are respectively antimony and zinc.

8. (currently amended) A thin film electrical heating element according to claim 6 wherein said electrically conductive ~~metal oxide~~ layer is substantially free of fluorine.

9. (currently amended) A thin film electrical heating element according to claim 1 wherein said thin film electrical heating element is stable at a power density of 20 watts cm^{-2}.

10. (currently amended) A thin film electrical heating element according to claim 1 wherein said heating element is stable at a temperature of 650°C.

11. (currently amended) A thin film electrical heating element according to claim 1 wherein said metal oxide is deposited on said substrate by pyrolysis of an organometallic base solution containing said at least one rare earth element.

12. (currently amended) A thin film <u>electrical</u> heating element according to claim 11 wherein the or each rare earth element is present in said <u>organometallic base</u> solution at a concentration up to 5 mol %.

13. (currently amended) A thin film <u>electrical</u> heating element according to claim 12 wherein said at least one rare earth element includes both cerium and lanthanum.

14. (currently amended) A thin film <u>electrical</u> heating element according to claim 13 wherein cerium and lanthanum are each present in said <u>organometallic base</u> solution in the range of approximately 1.25 mol % to approximately 3.75 mol %.

15. (currently amended) A thin film <u>electrical</u> heating element according to claim 14 wherein the concentration of each of cerium and lanthanum in said <u>organometallic base</u> solution is approximately 2.5 mol %.

16. (currently amended) A thin film <u>electrical</u> heating element according to claim 11 wherein said solution further includes substantially equal quantities of donor and acceptor elements.

17. (currently amended) A thin film <u>electrical</u> heating element according to claim 16 wherein each of said donor and acceptor elements are respectively antimony and zinc and are each present in said <u>organometallic base</u> solution at a concentration of approximately 2.8 mol %.

18. (currently amended) A thin film electrical heating element according to claim 11 or 13 wherein said organometallic base solution is monobutyl tin trichloride.

19. (currently amended) A method for the manufacture of a thin film heating element including the step of depositing an electrically conductive [[a]] layer substantially comprising ~~of~~ metal oxide onto an electrically insulating substrate by pyrolysis of an organometallic base solution containing at least one rare earth element.

20. (currently amended) A method according to claim 19 wherein said organometallic base solution contains at least two rare earth elements.

21. (currently amended) A method according to claim 20 wherein said two rare earth elements are present in said organometallic base solution in substantially equal concentrations.

22. (original) A method according to claim 19 wherein said at least one rare earth element is present in said solution in the range of approximately 1.25 mol % to approximately 3.75 mol %.

23. (original) A method according to claim 20 wherein said at least two rare earth element includes both cerium and lanthanum.

24. (currently amended) A method according to claim 23 wherein said cerium and lanthanum are each present in said organometallic base solution in substantially equal concentrations.

25. (currently amended) A method according to claim 19 wherein said organometallic base solution is monobutyl tin trichloride ~~trichlorde~~.

26. (currently amended) A method according to claim 19 wherein said organometallic base solution further includes chlorides of at least one donor and at least one acceptor element, said donor chlorides and acceptor chlorides being present in said organometallic base solution in substantially equal concentrations.

27. (original) A method according to claim 26 wherein said donor chloride is antimony chloride and said acceptor chloride is zinc chloride.

28. (currently amended) A method according to claim 19 wherein said organometallic base solution is substantially free of fluorine.

29. (currently amended) A method according to claim 19 further including the step of annealing said electrically conductive ~~metal oxide~~ layer on said substrate for at least one hour at a temperature higher than the substrate temperature used during said pyrolysis.